

Amendments to the Claims:

Please amend the claims as follows. The following listing of claims is to replace all previous listings of claims.

Claims:

1. (currently amended) A plant punch apparatus, comprising:

- a first plant punch element that comprises a first plant punch head;
- a plant punch element relative movement mechanism that is operable to relatively move said first plant punch element through a plurality of spatial points that defines a first plant punch element relative travel path; and
- a frame that supports said plant punch movement mechanism,

wherein said plurality of spatial points comprises a first spatial point having a first horizontal distance from a vertical spatial axis defined by a first plant emergent point,

wherein said first plant emergent point is defined by a site at which a first plant emerges from plant growth media in which it is established before it is downwardly punched from its container during a plant punch event,

wherein said first plant emergent point defines a plant emergent point horizontal plane,

wherein said plurality of spatial points further comprises a second spatial point that:

- defines a second horizontal plane that is below said first spatial point and above said plant emergent point horizontal plane, and
- has a second horizontal distance from said vertical spatial axis; and

wherein said first horizontal distance is greater than said second horizontal distance,

wherein said first plant punch element relative travel path intersects and passes through and below said plant emergent point horizontal plane,

wherein said first plant punch element relative travel path has a vertical component at its intersection with said plant emergent point horizontal plane, and plane.

wherein said first plant punch element relative travel path has a horizontal component at some point from said first spatial point to said second spatial point of said first plant punch element relative travel path, path, and

wherein said plant punch element relative movement mechanism relatively moves said first plant punch element through said first spatial point and then said second spatial point before said plant punch event.

2. (currently amended) A plant punch apparatus as described in claim 1 wherein said plant punch element relative movement mechanism is operable to relatively move said first plant punch element to generate a plant punch cycle.
3. (currently amended) A plant punch apparatus as described in claim 2 wherein said plant punch element relative movement mechanism comprises a horizontal plant punch relative movement mechanism and a vertical plant punch relative movement mechanism.
4. (currently amended) A plant punch apparatus as described in claim 3 wherein said vertical plant punch relative movement mechanism is manually operable.
5. (currently amended) A plant punch apparatus as described in claim 3 wherein said horizontal plant punch relative movement mechanism is automatically operable.

6. (currently amended) A plant punch apparatus as described in claim 2 wherein said plant punch element relative movement mechanism is manually operable.
7. (currently amended) A plant punch apparatus as described in claim 2 wherein said plant punch element relative movement mechanism is manually operable only in part.
8. (currently amended) A plant punch apparatus as described in claim 2 wherein said plant punch element relative movement mechanism is automatically operable.
9. (currently amended) A plant punch apparatus as described in claim 2 wherein said plant punch element relative movement mechanism is automatically operable only in part.
10. (currently amended) A plant punch apparatus as described in claim 1 wherein said first plant punch element relative travel path passes below said plant emergent point horizontal plane substantially at least by that amount necessary to punch said plant from said container.
11. (currently amended) A plant punch apparatus as described in claim 10 wherein said first plant punch element relative travel path passes below said plant emergent point horizontal plane at least by that amount necessary to transplant said first plant into a container established below said plant emergent point horizontal plane.
12. (currently amended) A plant punch apparatus as described in claim 1 further comprising additional plant punch elements that each comprise a plant punch head, wherein said plant punch element relative movement mechanism is also operable to move said additional plant punch elements through additional, respective plant punch element relative travel paths to punch additional, respective plants, wherein said additional, respective plant punch element relative travel paths are each spatially oriented relative to their additional, respective plant as said first plant punch element travel path is spatially oriented relative to said first plant, but also wherein and

wherein said additional, respective plant punch element relative travel paths are horizontally offset from said first plant punch element relative travel path.

13. (currently amended) A plant punch apparatus as described in claim 12 wherein said first plant punch element and said additional plant punch elements are established in a row by column pattern.
14. (currently amended) A plant punch apparatus as described in claim 1 further comprising said first plant.
15. (original) A plant punch apparatus as described in claim 14 further comprising additional plants that are punched by additional plant punch elements.
16. (currently amended) A plant punch apparatus as described in claim 1 further comprising additional plant punch elements, wherein said plant punch element relative movement mechanism is also operable to relatively move said additional plant punch elements through additional, respective plant punch element travel paths that mimic said first plant punch element relative travel path in parallel fashion.
17. (original) A plant punch apparatus as described in claim 16 wherein said first plant punch element and said additional plant punch elements are established in a row by column pattern.
18. (currently amended) A plant punch apparatus as described in claim 1 further comprising a n^{th} plant punch element that said plant punch element relative movement mechanism is operable to relatively move through a plurality of spatial points that defines a n^{th} plant punch element travel path.
19. (currently amended) A plant punch apparatus as described in claim 18 wherein said n^{th} plant punch element travel path is horizontally offset from said first plant punch element relative travel path.

20. (currently amended) A plant punch apparatus as described in claim 19 wherein respective points on each said first plant punch element relative travel path and said nth plant punch element relative travel path are horizontally equidistant from each other.
21. (original) A plant punch apparatus as described in claim 1 wherein said plurality of spatial points comprises a third spatial point that is substantially co-incident with said plant emergent point.
22. (original) A plant punch apparatus as described in claim 1 wherein said first plant punch element travel path is substantially vertical when it passes through said lower horizontal plane.
23. (original) A plant punch apparatus as described in claim 1 wherein said first spatial point, said second spatial point and said first plant emergent point are substantially within the same vertical plane.
24. (currently amended) A plant punch apparatus as described in claim 1 wherein an upper portion of said first plant punch element relative travel path that is between said first spatial point and said second spatial point of said first plant punch element relative travel path is substantially vertical.
25. (currently amended) A plant punch apparatus as described in claim 1 wherein said plant punch element relatively travels along said first plant punch element relative travel path from said first spatial point of said first plant punch element relative travel path, then through said second spatial point of said first plant punch element relative travel path, then through said plant emergent point horizontal plane.
26. (currently amended) A plant punch apparatus as described in claim 1 wherein, after relatively traveling through said plant emergent point horizontal plane, said first plant punch element reaches a lowest relative position, and then relatively returns to said

first spatial point of said first plant punch element relative travel path through a first plant punch element relative_return travel path that is part of said first plant punch element relative travel path.

27. (currently amended) A plant punch apparatus as described in claim 26 wherein said first plant punch element relative_return travel path comprises said second spatial point and said first spatial point of said first plant punch element relative travel path.

28. (currently amended) A plant punch apparatus as described in claim 26 wherein at least half of said first plant punch element relative return travel path is along said vertical spatial axis.

29. (currently amended) A plant punch apparatus as described in claim 1 wherein said first plant punch element reaches its highest relative point at said first spatial point of said first plant punch element relative travel path.

30. (currently amended) A plant punch apparatus as described in claim 1 wherein said plant punch relative movement mechanism is operable to relatively_move said first plant punch element through said horizontal component of said first plant punch element relative travel path through pneumatics.

31. (currently amended) A plant punch apparatus as described in claim 1 wherein said plant punch relative movement mechanism is operable to relatively_move said first plant punch element through said vertical component of said first plant punch element relative travel path upon application of a manual force to said plant punch relative movement mechanism.

32. (original) A plant punch apparatus as described in claim 1 wherein said first plant punch element further comprises a first plant punch body.

33. (currently amended) A plant punch apparatus as described in claim 1 wherein an upper portion of said first plant has plant punch sensitive vegetative parts that define a sensitive vegetation profile in a plane defined by said first spatial point and said plant emergent point, and wherein said first plant punch element relative travel path is outside one side of said sensitive vegetation profile.
34. (currently amended) A plant punch apparatus as described in claim 1 wherein said first plant punch element initiates a relative horizontal motion at a horizontal relative motion initiation point located at some point between said first spatial point and said second spatial point and along said first plant punch element relative travel path.
35. (currently amended) A plant punch apparatus as described in claim 34 wherein said horizontal relative motion initiation point has a horizontal relative motion initiation height above said plant emergent point horizontal plane, and wherein said horizontal relative motion initiation height is adjustable.
36. (currently amended) A plant punch apparatus as described in claim 34 wherein said horizontal relative motion initiation point has a horizontal relative motion initiation width that is equal to a horizontal distance of said horizontal relative motion initiation point from said vertical spatial axis, and wherein said horizontal relative motion initiation width is adjustable.
37. (currently amended) A plant punch apparatus as described in claim 1 wherein said horizontal component of said first plant punch element has a horizontal relative motion initiation point between said first spatial point and said second spatial point, and wherein said horizontal relative motion initiation point is spatially adjustable.
38. (currently amended) A plant punch apparatus as described in claim 1 wherein said plant punch element relative movement mechanism is operable to effect a horizontal relative travel distance of said first plant punch element, and wherein said horizontal relative travel distance is adjustable.

39. (withdrawn; currently amended) A plant punch method, comprising the steps of:

- relatively moving a first plant punch element having a first plant punch head, from a first spatial point to a second spatial point that is lower than said first spatial point, wherein said first spatial point and said second spatial point partially define a first plant punch element relative travel path;

wherein said first spatial point has a first horizontal distance from a vertical spatial axis that defines a first plant emergent point,

wherein said first plant emergent point is defined by the site at which a first plant emerges from said plant growth media in which it is established before it is punched from its container during a plant punch event,

wherein said second spatial point has a second horizontal distance from said vertical spatial axis, and

wherein said first horizontal distance is greater than said second horizontal distance,

and further comprising the steps of:

- relatively moving said first plant punch element through a plant emergent point horizontal plane defined by said first plant emergent point so as to punch said first plant downwardly from its container after performing said step of relatively moving said first plant punch element from said first spatial point to said second spatial point;
- punching said first plant from its container;
- reaching a lowest first plant punch element relative position; position; and
- returning, via relative movement of said first plant punch element, said first plant punch element to said first spatial point; point; and

- completing a plant punch cycle upon performing said step of returning said first plant punch element to said first spatial point.

40. (withdrawn) A plant punch method as described in claim 39 further comprising the step of transplanting said first plant.

41. (canceled)

42. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving said first plant punch element through a horizontal plane defined by said first plant emergent point so as to punch said first plant from its container comprises the step of manually relatively moving said plant punch element through use of a plant punch relative movement mechanism.

43. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving a first plant punch element from a first spatial point to a second spatial point comprises the step of relatively moving said first plant punch element to have a horizontal component of relative motion.

44. (withdrawn; currently amended) A plant punch method as described in claim 43 wherein said step of relatively moving said first plant punch element to have a horizontal component of relative motion comprises the step of pneumatically relatively moving said first plant punch element through use of a plant punch relative movement mechanism.

45. (withdrawn; currently amended) A plant punch method as described in claim 43 wherein said step of relative moving said first plant punch element to have a horizontal component of relative motion comprises the step of automatically relatively moving said first plant punch element through use of a plant punch relative movement mechanism.

46. (withdrawn) A plant punch method as described in claim 39 wherein said step of returning said first plant punch element to said first spatial point comprises the step of returning said plant punch element to said first spatial point only after returning said first plant punch element to said second spatial point.
47. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of returning said first plant punch element to said first spatial point comprises the step of vertically relatively moving said first plant punch element such that substantially at least one third of its relative travel from said lowest first plant punch element relative position to said first spatial point is along said vertical spatial axis.
48. (withdrawn; currently amended) A plant punch method as described in claim 47 wherein said step of vertically relatively moving said first plant punch element such that substantially at least one third of its relative travel from said lowest first plant punch element relative position to said first spatial point is along said vertical spatial axis is performed manually.
49. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving said first plant punch element through a plant emergent point horizontal plane defined by said first plant emergent point comprises the step of relatively moving said first plant punch element substantially through said first plant emergent point.
50. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving said first plant punch element through a plant emergent point horizontal plane comprises the step of purely vertically relatively moving said first plant punch element.
51. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving a first plant punch element from a first spatial

point to a second spatial point comprises the step of relatively moving said plant punch element from its highest relative position during a punch cycle.

52. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving a first plant punch element from a first spatial point to a second spatial point that is lower than said first spatial point comprises the step of relatively moving said first plant punch element horizontally while also relatively moving said first plant punch element vertically downward.

53. (withdrawn; currently amended) A plant punch method as described in claim 52 wherein said step of relatively moving said first plant punch element horizontally comprises the step of pneumatically relatively moving said first plant punch element.

54. (withdrawn; currently amended) A plant punch method as described in claim 52 wherein said step of relatively moving said first plant punch element vertically downward comprises the step of manually relatively moving said first plant punch element.

55. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving a first plant punch element from a first spatial point to a second spatial point that is lower than said first spatial point comprises the step of relatively moving said first plant punch element outside of one side of a sensitive vegetation profile defined by sensitive vegetative parts of an upper portion of said first plant, wherein said sensitive vegetation profile is in a plane defined by said first spatial point and said plant emergent point.

56. (withdrawn; currently amended) A plant punch method as described in claim 39 further comprising the step of relatively moving at least one additional plant punch element through a respective at least one additional plant punch element relative travel path that is each horizontally offset from said first plant punch element relative travel path.

57. (withdrawn) A plant punch method as described in claim 56 wherein said plant punch element further comprises a plant punch body.
58. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving a first plant punch element from a first spatial point to a second spatial point comprises the step of initiating a horizontal relative motion of said first plant punch element at a horizontal relative motion initiation point.
59. (withdrawn; currently amended) A plant punch method as described in claim 58 wherein the step of initiating a horizontal relative motion of said first plant punch element comprises initiating said horizontal relative motion at a horizontal relative motion initiation height above said plant emergent point horizontal plane, and further comprises the step of adjusting said horizontal relative motion initiation height.
60. (withdrawn; currently amended) A plant punch method as described in claim 58 wherein the step of initiating a horizontal relative motion of said first plant punch element comprises initiating said horizontal relative motion at a horizontal relative motion initiation width that is equal to a horizontal distance of said horizontal relative motion initiation point from said vertical spatial axis, and further comprises the step of adjusting said horizontal relative motion initiation width.
61. (withdrawn; currently amended) A plant punch method as described in claim 39 wherein said step of relatively moving said first plant punch element through a plant emergent point horizontal plane defined by said first plant emergent point so as to punch said first plant from its container comprises the step of relatively moving said first plant punch element through a plant emergent point horizontal plane substantially at said first plant emergent point.

62. (withdrawn; currently amended) A plant punch method, comprising:

- moving a plant punch element that comprises a plant punch head downwards from a first position;
- subsequently moving said plant punch head in towards a vertical spatial axis defined by a first plant emergent point,

wherein said first plant emergent point is defined by the site at which a plant emerges from plant growth media in which it is established before it is punched from its container during a plant punch event,

- subsequently punching, by downwardly moving said plant punch head, said plant with said plant punch element to cause a plant punch event; and
- subsequently returning said plant punch element to said first position.

Claims 63-161 (cancelled)